



- A. Coarse and Fine Tuning Control.
- B. Band-change Switch.
- C. Operational Switch.
(PHONE-OFF-C.W.-Calibrate.)
- D. Pass-band Switch.

- E. H.F. Gain Control.
- F. L.F. Gain Control.
- G. A.C. Switch.
- H. Power Switch.

MARCONI RECEIVER TYPES CR. 300/1 and CR. 300/2 and SUPPLY UNIT TYPE 1807.

TECHNICAL DESCRIPTION.

(a) GENERAL.

The valve complement of the receiver is as under :

Type.	Number.	Use.
ARTH2 (for CR. 300/1 or KTW61 (for CR. 300/2) X66 or 6K8	1	Signal Frequency Amplifier.
KTW61	1	Frequency Changer.
KTW61	2	Intermediate Frequency Amplifiers.
DH63	1	Second Detector, A.G.C. Rectifier and L.F. Amplifier.
KTW61	1	Beat Frequency Oscillator.
6V6G	1	Output.
KTW51	1	Calibration Oscillator.
Type 889 Supply Unit : OZ4	1	H.T. Fullwave Rectifier.

As shown in the illustration the receiver unit conforms in general appearance to the general characteristics of the CR. series and is mounted in a robust metal cabinet finished in Marconi grey. The power supply unit matches the receiver in general appearance.

Frequency Band.

The overall frequency range of 15 kc/s to 25 Mc/s is covered by eight positions of the frequency band switch as follows :—

Switch Position.	Frequency Band.	Switch Position.	Frequency Band.
1	15 kc/s — 85 kc/s.	5	1 Mc/s — 2.6 Mc/s.
2	85 „ — 210 „	6	2.6 „ — 6.8 „
3	210 „ — 550 „	7	6.8 „ — 17 „
4	375 „ — 1,000 „	8	15 „ — 25 „

Two values of I.F. are used, viz. : (a) 98 kc/s—on bands 1 and 4. (b) 570 kc/s—on bands 2, 3, 5, 6, 7 and 8.

Calibration and Tuning.

In addition to selecting the required coils, the band switch rotates a calibration roller, bringing into view the full frequency scale of the band in use, as for the other receivers in the CR. series. The main tuning control moves a pointer across the frequency scale and also rotates the logging scale discs. This logging scale has an equivalent length of 18 feet and its 1,250 divisions can be read to one-quarter division. At 20 Mc/s one scale division is equal to a 13 kc/s change of frequency.

Selectivity Range.

The four-position pass-band switch is indexed on the front of panel with initial letters corresponding to “wide,” “medium,” “narrow” and “filter” positions.

The first three conditions are effected by control of the intermediate frequency characteristics, e.g., coupling and feed back. The filter position introduces, after the narrowest I.F. pass-band, low frequency circuits tuned to approximately 1,000 c.p.s. and having a pass-band of 100 c.p.s.

The nominal pass-bands available with the 98 kc/s I.F., i.e., bands 1 and 4, are as follows

Wide	2,200 c.p.s., i.e., frequencies	$\pm 1,100$ c.p.s. in relation to the carrier.
Medium	1,800 „ „ „	± 900 „ in relation to the carrier.
Narrow	1,500 „ „ „	± 750 „ in relation to the carrier.

The corresponding pass-bands available on 570 kc/s I.F., i.e., ranges 2, 3, 5, 6, 7 and 8, are as follows :

Wide	5,000 c.p.s., i.e., frequencies	$\pm 2,500$ c.p.s. in relation to the carrier.
Medium	4,000 „ „ „	$\pm 2,000$ „ in relation to the carrier.
Narrow	2,000 „ „ „	$\pm 1,000$ „ in relation to the carrier.

Aerial Input.

The input is arranged for working with a single wire aerial connected via a 75 to 100 ohm unbalanced feeder, the total capacity of aerial and feeder should not exceed 700 μ F. The concentric input plug will fit screened cables such as the Uni-radio Types Nos. 1, 6, 18, 19 and 31.

Outputs.

In addition to the self-contained loudspeaker and headphone points the receiver is provided with connections on the seven-way socket for extension outputs. The full output facilities are therefore

- (1) Two local headphone points, suitable for 60 ohm (nominal) headphones, level 10 mW.
- (2) The local loudspeaker, 3.5 ohms special coil, switched off by insertion of the local headphones. Maximum level approximately 2 Watts.
- (3) An extension loudspeaker, 3.5 ohms coil, unaffected by insertion of the local headphones
- (4) An extension output similar to that for the local headphones, i.e., 10 mW maximum into 60 ohm headphones. This is unaffected by insertion of the local headphones. Since the working impedance of 60 ohm headphones is approximately 600 ohm, this extension output may be used for a 600 ohm line.

(3) and (4) are available on special request.

Controls.

The receiver controls are :

Main tuning condenser (fast and slow drive).

Tuning band switch.

Pass-band selection.

Operational switch (selecting Telephone or CW reception and controlling the calibrating Oscillator).

A.G.C. on-off switch.

H.F. Gain.

L.F. Gain.

On-off switch.

N.B. There is also incorporated a preset control, mounted behind the front panel but accessible through the latter, for controlling a desensitising voltage when working in conjunction with a local transmitter.

Supplies.

The receiver unit seven-way socket may be supplied directly with 0.95 amps at 24 volts and 60 mA. at 250 volts D.C.

When the receiver is fed from the Type 889 Supply Unit, the latter is adaptable to operate as under.

From	24 V. D.C.	..	..	..	..	Consumption	54 Watts.
„	110 V. D.C.	..	..	..	..	Consumption	60 „
„	220 V. D.C.	..	..	..	..	Consumption	60 „
„	230 V. A.C.	..	..	..	..	Consumption	60 „

Output from Supply Unit.

H.T. — 250 volts at 60 mA.

L.T. — 24 volts at 1 amp. A.C.

When run from 24 volts D.C. supply the L.T. output will be 24 volts D.C.

A full description of the supply unit is given on page 8.

(b) DETAILED CIRCUIT DESCRIPTION.

In summary the circuit is basically a straightforward superheterodyne using one signal-frequency amplifier valve, a frequency changer, two intermediate-frequency amplifier valves, a combined 2nd detector and first low-frequency amplifier, and, finally, an output stage. Additionally there is a separate Beat Note oscillator valve, while an eighth valve functions as a crystal-controlled calibrating oscillator.

SECTION 4.

PERFORMANCE.

1. Sensitivity.

In the table below sensitivity is expressed in Column 4 as the unmodulated input signal required to give a signal-to-noise ratio of 20 db.

For this test the receiver pass-band switch should be set at "N," except on Band 1 when the "F" position should be used.

2. Image Protection.

The amount by which the image signal is attenuated as shown in Column 5

<i>Band.</i>	<i>Frequency.</i>	<i>Dummy Aerial.</i>	<i>Sensitivity.</i>	<i>Image Protection.</i>
1	18 kc/s	200 μ F	70 μ V	60 db
	80 "	200 "	35 "	60 "
2	85 "	200 "	7 "	80 "
	200 "	200 "	5 "	70 "
3	210 "	200 "	5 "	75 "
	520 "	200 "	3 "	55 "
4	400 "	200 "	5 "	65 "
	1.0 Mc/s	200 "	2 "	45 "
5	1.0 "	200 "	3 "	80 "
	2.5 "	200 "	2 "	50 "
6	2.7 "	100 ohms	3 "	66 "
	6.7 "	100 "	2 "	40 "
7	6.8 "	100 "	4 "	55 "
	16.5 "	100 "	3 "	30 "
8	14.5 "	100 "	5 "	35 "
	25.0 "	100 "	3 "	25 "

3. I.F. Selectivity (Adjacent Channel Protection).

*Pass-band Switch.**Bandwidth for attenuation as under*

		<i>-6 db.</i>	<i>-40 db.</i>
I.F.—570 kc/s.	Wide	5.0 kc/s	
	Medium	4.0 "	
	Narrow	2.0 "	16 kc/s.
I.F.— 98 kc/s.	Wide	2.2 "	
	Medium	1.8 "	
	Narrow	1.5 "	8.0 kc/s.

4. L.F. Response.

With the pass-band switch set to "F" the two-stage note filter (thus introduced) passes a band of frequencies of approximately 100—150 c.p.s. for an attenuation of 6 db. Frequencies more than 200 c.p.s. from mid-band frequency are attenuated by at least 20 db.

With the filter switched out to the L.F. response varies according to the setting of the pass-band switch as shown on page 23, Fig. 1.

COMPONENT LIST FOR RECEIVER.

TYPES CR. 300/1 AND CR. 300/2.

Note. It is essential, when ordering spares for this Receiver, to quote the Type reference shown on the Receiver (Type CR. 300/1 or 2), Serial No. of Unit, the reference number of the component (e.g., C3), and the drawing number of the component, thus :—

Type CR. 300/1, MC., C3, W.IS. 2708, Sh. 1, Ref. 2.

The component part references in column 1 will be found on Drg. WE/W. 6890, Sh. 1, page 33.

Ref.	Section of Diagram.	Description.	Nominal Value.	Drawing No.	Adm. Ref.
SUB-ASSEMBLIES.					
Aerial Assembly	A	Includes Components Marked (AA).		W.6887 Sh. 1, Ed. A.	M661
H.F. Assembly	B	Includes Components Marked (HA).		W.6888 Sh. 1, Ed. A.	M662
Oscillator Assembly	C	Includes Components Marked (OA).		W.6889 Sh. 1, Ed. A.	M663
Oscillator Calibrator	F	{ 500 kc/s. (CR. 300/1) } Includes Components { 690 kc/s. (CR. 300/2) } Marked (OC).		W.6894/C Sh. 1, Ed. B.	M670
I.F.1	C	Coil Unit. Includes L25 and 26, C39 and 40		W.6972/C Sh. 1, Ed. A.	M664
I.F.2	D	Coil Unit. „ L27 and 28, C62 and 63		W.6972/C Sh. 1, Ed. B.	M665
I.F.3	D	Coil Unit. „ L29 and 30, C65 and 66		W.6972/C Sh. 1, Ed. C.	M666
I.F.4	E	Coil Unit. „ L31 and 32, C77 and 78		W.6972/C Sh. 1, Ed. D.	M667
I.F.5	E	Coil Unit. „ L33 and 34, C79 and 80		W.6972/C Sh. 1, Ed. E.	M668
I.F.6	E	Coil Unit. „ L35 and 36, C81 and 82		W.6972/C Sh. 1, Ed. F.	M669

The components used in the above sub-assemblies are specified in the following lists, but when any of these specified components are required, the complete sub-assembly in which they are used must be ordered.

CONDENSERS.

C1	A	Condenser.	0.01 μ F.	WIS.1565 Sh. 2.	M708
C2	A	Condenser.	0.007 μ F.	As C1.	M707
C3	A	Condenser, Triple with C20 and C106.	0.1 μ F.	WIS.2708 Sh. 1, Ref. 2.	M710
C4	A	Condenser (AA).	500 μ F.		
C5	A	Condenser (AA).	500 μ F.		
C6	A	Condenser (AA).	50 μ F.		
C7	A	Condenser (AA).	500 μ F.		
C8	A	Condenser (AA).	300 μ F.		
C9	A	Condenser, Trimmer (AA).	3—30 μ F.		
C10	A	Condenser, Trimmer (AA).	As C9.		
C11	A	Condenser, Trimmer (AA).	As C9.		
C12	A	Condenser, Trimmer (AA).	As C9.		
C13	A	Condenser, Trimmer (AA).	As C9.		
C14	A	Condenser, Trimmer (AA).	As C9.		
C15	A	Condenser, Trimmer (AA).	As C9.		
C16	A	Condenser (AA).	10 μ F.		
C17	A	Condenser, Tuning.	437 μ F Sweep with C36 and C60.	W.7218 Sh. 1, Ed. A.	M660
C18	A	Condenser (AA).	0.01 μ F.		
C19	A	Condenser.	0.01 μ F.	WIS.1609.	
C20	A	Condenser, Triple with C3 and C106.	0.1 μ F.	As C3.	M710

Ref.	Section of Diagram.	Description.	Nominal Value.	Drawing No.	Adm. Ref.
C21	B	Condenser (HA).	0.01 μ F.		
C22	B	Condenser, Triple with C37 and C38	0.1 μ F.	WIS.2708 Sh. 1, Ref. 2.	M710
C23	B	Condenser (HA).	30 μ F.		
C24	B	Condenser (HA).	300 μ F.		
C25	B	Condenser (HA).	As C24.		
C26	B	Condenser (HA).	700 μ F.		
C27	B	Condenser (HA).	500 μ F.		
C28	B	Condenser (HA).	5 μ F.		
C29	B	Condenser, Trimmer (HA).	3—30 μ F.		
C30	B	Condenser, Trimmer (HA).	As C29.		
C31	B	Condenser, Trimmer (HA).	As C29.		
C32	B	Condenser, Trimmer (HA).	As C29.		
C33	B	Condenser, Trimmer (HA).	As C29.		
C34	B	Condenser, Trimmer (HA).	As C29.		
C35	B	Condenser, Trimmer (HA).	As C29.		
C36	B	Condenser, Tuning.	437 μ F Sweep with C17 and C60.	W.7218 Sh. 1, Ed. A.	M660
C37	B	Condenser, Triple with C22 and C38.	As C22.	As C22.	M710
C38	C	Condenser, Triple with C22 and C37.	As C22.	As C22.	M710
C39	C	Condenser for I.F.1.	500 μ F.		
C40	C	Condenser for I.F.1.	150 μ F.		
C41	D	Condenser, Trimmer.	3—30 μ F.	WIS.2848 Sh. 1, Ref. 1.	
C42	C	Condenser (DA).	300 μ F.		
C43	C	Condenser	100 μ F.	WIS.1784.	
C44	C	Condenser (OA).	180 μ F.		
C45	C	Condenser (DA).	71 μ F.		
C46	C	Condenser (OA).	160.5 μ F.		
C47	C	Condenser (OA).	1,370 μ F.		
C48	C	Condenser (OA).	690 μ F.		
C49	C	Condenser (OA).	1,650 μ F.		
C50	C	Condenser (OA).	2,570 μ F.		
C51	C	Condenser, Trimmer (OA).	As C29.		
C52	C	Condenser, Trimmer (OA).	As C29.		
C53	C	Condenser, Trimmer (OA).	As C29.		
C54	C	Condenser, Trimmer (OA).	As C29.		
C55	C	Condenser, Trimmer (OA).	As C29.		
C56	C	Condenser, Trimmer (OA).	As C29.		
C57	C	Condenser, Trimmer (OA).	As C29.		
C58	C	Condenser, Trimmer (OA).	As C29.		
C59	C	Condenser, Trimmer.	2—8 μ F.	WIS.2848 Sh. 1, Ref. 2.	
C60	C	Condenser, Tuning.	437 μ F Sweep with C17 and C36.	As C36.	M669
C61	C	Condenser (OA).	0.01 μ F.		
C62	D	Condenser for I.F.2.	500 μ F.		
C63	D	Condenser for I.F.2.	150 μ F.		
C64	D	Condenser, Triple with C70 and C97.	As C22.	As C22.	M710
C65	D	Condenser for I.F.3.	500 μ F.		
C66	D	Condenser for I.F.3.	150 μ F.		
C67	D	Condenser.	100 μ F.	WIS.2442.	M709
C68	D	Condenser, Triple with C69 and C107.	As C22.	As C22.	M710
C69	D	Condenser, Triple with C68 and C107.	As C22.	As C22.	M710
C70	D	Condenser, Triple with C64 and C97.	As C22.	As C22.	M710
C71	D	Condenser, Triple with C72 and C76.	0.1 μ F.	WIS.2708 Sh. 1, Ref. 2.	M710
C72	D	Condenser, Triple with C71 and C76.	As C71.	As C71.	M710

Ref.	Section of Diagram.	Description.	Nominal Value.	Drawing No.	Adm. Ref.
C73	E	Condenser.	5 μ F.	WIS.1784.	
C74	E	Condenser, Triple with C96 and C105.	As C71.	As C71.	M710
C75	E	Condenser, Triple with C83 and C85.	As C71.	As C71.	M710
C76	E	Condenser, Triple with C71 and C72.	As C71.	As C71.	M710
C77	E	Condenser for I.F.4.	500 μ F.		
C78	E	Condenser for I.F.4.	150 μ F.		
C79	E	Condenser for I.F.5.	500 μ F.		
C80	E	Condenser for I.F.5.	150 μ F.		
C81	E	Condenser for I.F.6.	500 μ F.		
C82	E	Condenser for I.F.6.	150 μ F.		
C83	F	Condenser, Triple with C75 and C85.	As C71.	As C71.	M710
C84	E	Condenser.	100 μ F.	WIS.2442.	M709
C85	E	Condenser, Triple with C75 and C83.	As C71.	As C71.	M710
C86	E	Condenser.	0.01 μ F.	WIS.1565 Sh. 2.	M708
C87	E	Condenser.	500 μ F.	As C84.	
C88	E	Condenser.	As C84.	As C84.	M709
C89	E	Condenser.	As C84.	As C84.	M709
C91	E	Condenser.	0.01 μ F.	As C86.	M708
C92	E	Condenser for L.F.1.	3,100 μ F.	WIS.1565 Sh. 1, Ref. 22.	
C93	E	Condenser, Trimmer, for L.F.1.	1,450—2,000 μ F.	WIS.1588 Ref. 7.	
C94	E	Condenser for L.F.1.	As C93.	As C93.	
C95	E	Condenser for L.F.1.	As C92.	As C92.	
C96	E	Condenser, Triple with C74 and C105.	As C71.	As C71.	M710
C97	E	Condenser, Triple with C64 and C70.	As C71.	As C71.	M710
C98	F	Condenser (OC).	0.005 μ F.		
C99	F	Condenser (OC).	500 μ F.		
C100	E	Condenser.	500 μ F.	As C84.	
C101	A	Condenser (AA)	50 μ F.		
C102	F	Condenser.	0.005 μ F.	WIS.2970 Sh. 1, Ref. 15.	M706
C103	F	Condenser, Electrolytic.	25 μ F.	WIS.3178/C Sh. 1, Ref. 3.	M711
C104	F	Condenser.	1 μ F.	WIS.2838 Sh. 1, Ref. 4.	M712
C105	F	Condenser, Triple with C74 and C96.	As C71.	As C71.	M710
C106	F	Condenser, Triple with C3 and C20.	As C71.	As C71.	M710
C107	F	Condenser, Triple with C68 and C69.	As C71.	As C71.	M710
C110	A	Condenser (AA).	2 μ F.		
C111	A	Condenser (AA).	2 μ F.		
C112	A	Condenser (AA).	30 μ F.		
C113	B	Condenser (HA).	20 μ F.		
C114	C	Condenser, Temp. Compensator		W.6893/C Sh. 1, Ed. A.	
C115	C	Condenser (OA)	30 μ F.		
C116	C	Condenser (OA).	30 μ F.		
C119	F	Condenser.	0.01 μ F.	WIS.1609.	
C120	F	Condenser.	0.01 μ F.	As C119.	
JACKS.					
J1	F	Jack, 8 point.		WIS.3150/C Sh. 1, Ref. 1.	M693
J2	F	Jack, 8 point		As J1.	M693

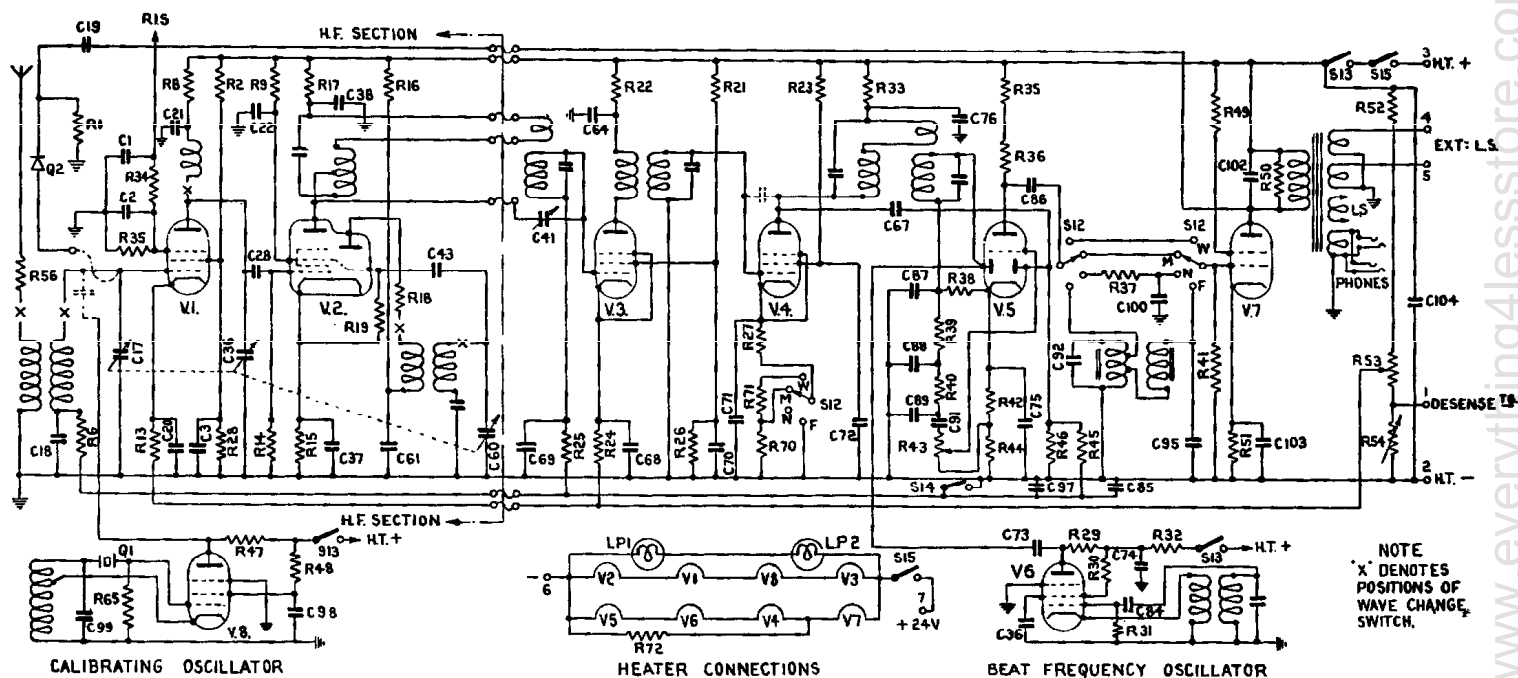
Ref.	Section of Diagram.	Description.	Nominal Value.	Drawing No.	Adm. Ref.
INDUCTANCES.					
L1—L8	A	H.F. Coils (AA).			
L9—L16	B	H.F. Coils (HA).			
L17—L24	C	H.F. Coils (QA).			
L25—L26	C	I.F. Coils for I.F.1.	98 kc/s. and 570 kc/s.		
L27—L28	D	I.F. Coils for I.F.2.	98 kc/s. and 570 kc/s.		
L29—L30	D	I.F. Coils for I.F.3.	98 kc/s. and 570 kc/s.		
L31—L32	E	I.F. Coils for I.F.4.	98 kc/s. and 570 kc/s.		
L33—L34	E	I.F. Coils for I.F.5.	98 kc/s. and 570 kc/s.		
L35—L36	E	I.F. Coils for I.F.6.	98 kc/s. and 570 kc/s.		
L37—L38	E	Iron Core Inductances for L.F. I.			
L39B	F	Inductance for Osc. Cal.(OC)	500 kc/s. (CR. 300/1)		
L39A	F	Inductance for Osc. Cal.(OC)	690 kc/s. (CR. 300/2)		
LF1	E	L.F. Filter Unit.		W.8133 Sh. 1, Ed. A.	M671
LAMPS.					
IL1	F	Lamp, M.E.S.	0.2 amps 12 volt.	WIS.3181/C Sh. 1, Ref. 5.	M477
IL2	F	Lamp, M.E.S.	0.2 amps 12 volt.	As IL1.	M477
LS	F	Loudspeaker 5 in. P.M.		WIS 3077 Sh. 1, Ref. 1.	M783
PLUGS AND SOCKETS.					
P1	A	Plug, Aerial.		A.M. Type 161, Ref. 10H/184.	M700
PS1	A	Socket, Aerial.		A.M. Type 56, Ref. 10/H10330.	M747
PS2	F	Socket, 7 pin, Yellow.		WSK.836, Sh. 1, Ed. L.	M788
PS3	A	Plug, R.I.S.		A.M. Type 229, Ref. 10H/528.	M686
CRYSTALS.					
Q1	F	Crystal (OC).	{ 500 kc/s. (CR. 300/1) 690 kc/s. (CR. 300/2)		
Q2	A	Crystal in Cup.		N/CP.4790.	
RESISTANCES.					
R1	A	Resistance.	1.0M Ω	WIS.2630 Sh. 1, Ref. 8.	
R2	A	Resistance.	47,000 Ω .	WIS.2630 Sh. 1, Ref. 7.	M723
R3	A	Resistance (AA).	220,000 Ω .	As R1.	
R4	A	Resistance (AA).	4,700 Ω .	As R1.	M719
R5	A	Resistance (AA).	4,700 Ω .	As R1.	M719
R6	A	Resistance (AA).	220,000 Ω .	As R1.	
R7	B	Resistance (HA).	68,000 Ω .	As R1.	M726
R8	B	Resistance (HA).	22,000 Ω .	WIS.2630 Sh. 1, Ref. 3.	M722
R9	B	Resistance.	47,000 Ω .	As R2.	
R10	B	Resistance (HA).	22,000 Ω .	As R2.	
R11	B	Resistance (HA).	4,700 Ω .	As R1.	M719
R12	B	Resistance (HA).	680 Ω .	As R1.	
R13	B	Resistance (HA).	390 Ω .	As R1.	
R14	B	Resistance (HA).	1.0M Ω	As R1.	
R15	B	Resistance.	390 Ω .	As R1.	
R16	C	Resistance.	47,000 Ω .	As R1.	
R17	C	Resistance.	2,200 Ω .	WIS.2630 Sh. 1, Ref. 8.	
R18	C	Resistance.	47 Ω .	As R17.	
R19	C	Resistance.	220,000 Ω .	As R17.	
R20	C	Resistance (OA).	47 Ω .		
R21	D	Resistance.	47,000 Ω .	WIS.2630 Sh. 1, Ref. 3.	M724
R22	D	Resistance.	2,200 Ω .	As R17.	
R23	D	Resistance.	68,000 Ω .	WIS.2630 Sh. 1, Ref. 7.	M725
R24	D	Resistance.	680 Ω .	As R17.	
R25	D	Resistance.	470,000 Ω .	As R17.	

Ref.	Section of Diagram.	Description.	Nominal Value.	Drawing No.	Adm. Ref.
R26	D	Resistance.	47,000 Ω .	As R23.	M723
R27	D	Resistance.	390 Ω .	As R17.	
R28	A	Resistance.	33,000 Ω .	As R23.	
R29	E	Resistance.	47,000 Ω .	As R17.	
R30	E	Resistance.	220,000 Ω .	As R23.	M728
R31	E	Resistance.	470,000 Ω .	As R17.	
R32	E	Resistance.	220,000 Ω .	As R17.	
R33	E	Resistance.	2,200 Ω .	As R17.	
R34	A	Resistance.	10,000 Ω .	As R17.	
R35	E	Resistance.	10,000 Ω .	As R17.	
R36	E	Resistance.	47,000 Ω .	As R17.	
R37	E	Resistance.	470,000 Ω .	As R17.	
R38	E	Resistance.	470,000 Ω .	As R17.	
R39	E	Resistance.	10,000 Ω .	As R17.	
R40	E	Resistance.	10,000 Ω .	As R17.	
R41	F	Resistance.	1M Ω .	As R17.	
R42	E	Resistance.	680 Ω .	As R17.	
R43	E	Potentiometer.	500,000 Ω .	WIS.2239 Sh. 2, Ref. 10.	M703
R44	E	Resistance.	2,200 Ω .	As R17.	
R45	E	Resistance.	470,000 Ω .	As R17.	
R46	E	Resistance.	1.0M Ω .	As R17.	
R47	F	Resistance.	47,000 Ω .	As R17.	
R48	F	Resistance.	47,000 Ω .	As R17.	
R49	F	Resistance.	4,700 Ω .	As R17.	M719
R50	F	Resistance.	220,000 Ω .	As R17.	
R51	F	Resistance.	1,000 Ω .	As R23.	M717
R52	F	Resistance.	47,000 Ω .	As R21.	M724
R53	F	Potentiometer.	10,000 Ω .	WIS.2239 Sh. 2, Ref. 11.	M701
R54	F	Potentiometer.	25,000 Ω .	WIS.2239 Sh. 2, Ref. 12.	M702
R55	A	Resistance.	68,000 Ω .	As R17.	
R56	A	Resistance.	47 Ω .	As R21.	
R57	B	Resistance.	470 Ω .	As R17.	M715
R58	C	Resistance.	470 Ω .	As R17.	M715
R59	C	Resistance.	470 Ω .	As R17.	M715
R60	D	Resistance.	470 Ω .	As R17.	M715
R61	E	Resistance.	470 Ω .	As R17.	M715
R62	E	Resistance.	470 Ω .	As R17.	M715
R63	F	Resistance.	470 Ω .	As R17.	M715
R64	F	Resistance.	470 Ω .	As R17.	M715
R65	F	Resistance (OC).	150,000 Ω .		
R66	B	Resistance (HA).	100,000 Ω .		
R67	B	Resistance (HA).	68,000 Ω .		
R68	F	Resistance.	4,700 Ω .	WIS.2630 Sh. 1, Ref. 2.	M720
R70	E	Resistance.	680 Ω .	As R17.	
R71	E	Resistance.	680 Ω .	As R17.	
R72	F	Resistance.	120 Ω .	WIS.2604 Sh. 1, Ref. 3.	M713
R73	F	Resistance	10,000 Ω	As R23.	

SWITCHES.

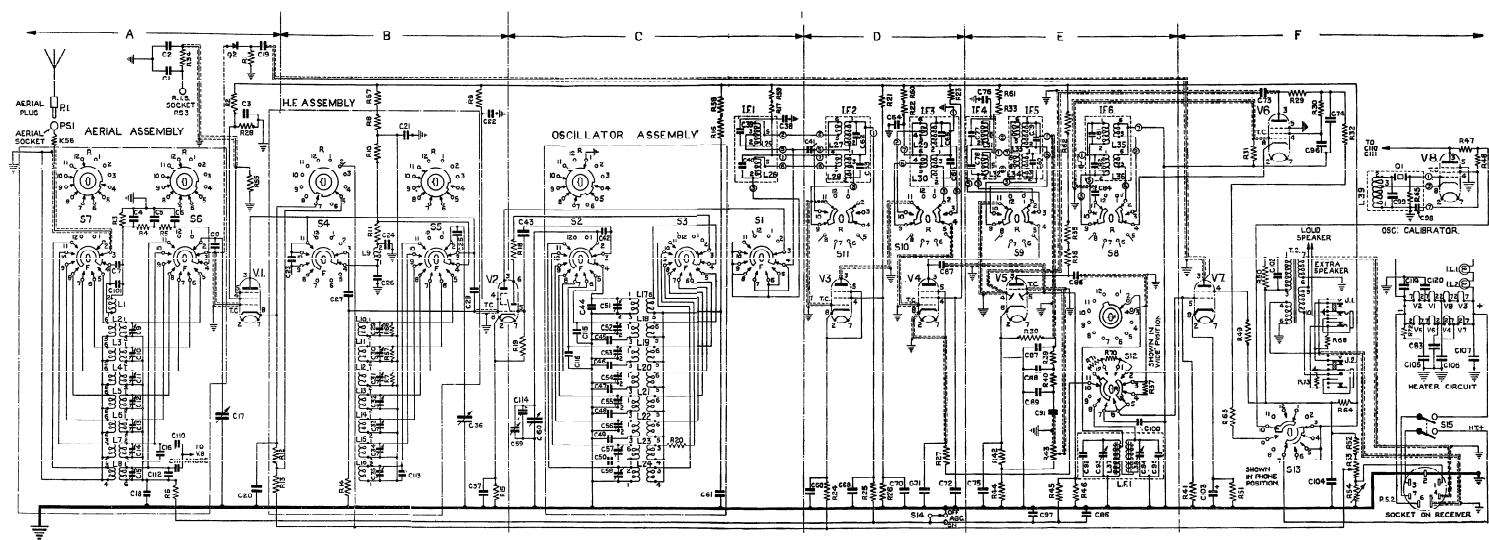
S1	C	Switch, H.F., Click Plate— 1st Section.	WSK.1197/C Sh. 266.	M680
S2	C	Switch, H.F. (OA).		
S3	C	Switch, H.F. (QA).		
S4	B	Switch, H.F. (HA).		
S5	B	Switch, H.F. (HA).		
S6	A	Switch, H.F. (AA).		
S7	A	Switch, H.F. (AA).		
S8	E	Switch, I.F.	WIS.1197/C Sh. 265.	M679
S9	E	Switch, I.F.	As S8.	M679
S10	D	Switch, I.F.	As S8.	M679
S11	D	Switch, I.F.	As S8.	M679
S12	E	Passband and L.F. Filter Switch.	WIS.1197/C Sh. 270.	M682

Ref	Section of Diagram	Description.	Nominal Value.	Drawing No.	Adm Ref.
S13	F	Operational Switch.		WIS.1197/C Sh. 271.	M681
S14	D	A.G.C. Switch		WIS.3217/C Sh. 1. Ref. 1.	M683
S15	F	Mains Switch.		As S14.	M683
TRANSFORMER.					
T2	F	Output Transformer		WKS.2528 Sh. 1.	M672
VALVES.					
V1	A	Valve, Type ARTH 2.			CV1347
V2	B & C	Valve, Type 6K8 or X66.			CV1193
V3	D	Valve, Type KTW.61.			CV1281
V4	D	Valve, Type KTW.61.			CV1281
V5	E	Valve, Type DH.63.			CV587
V6	E	Valve, Type KTW.61.			CV1281
V7	F	Valve, Type 6V6G.			CV509
V8	F	Valve, Type KTW.61			CV1281



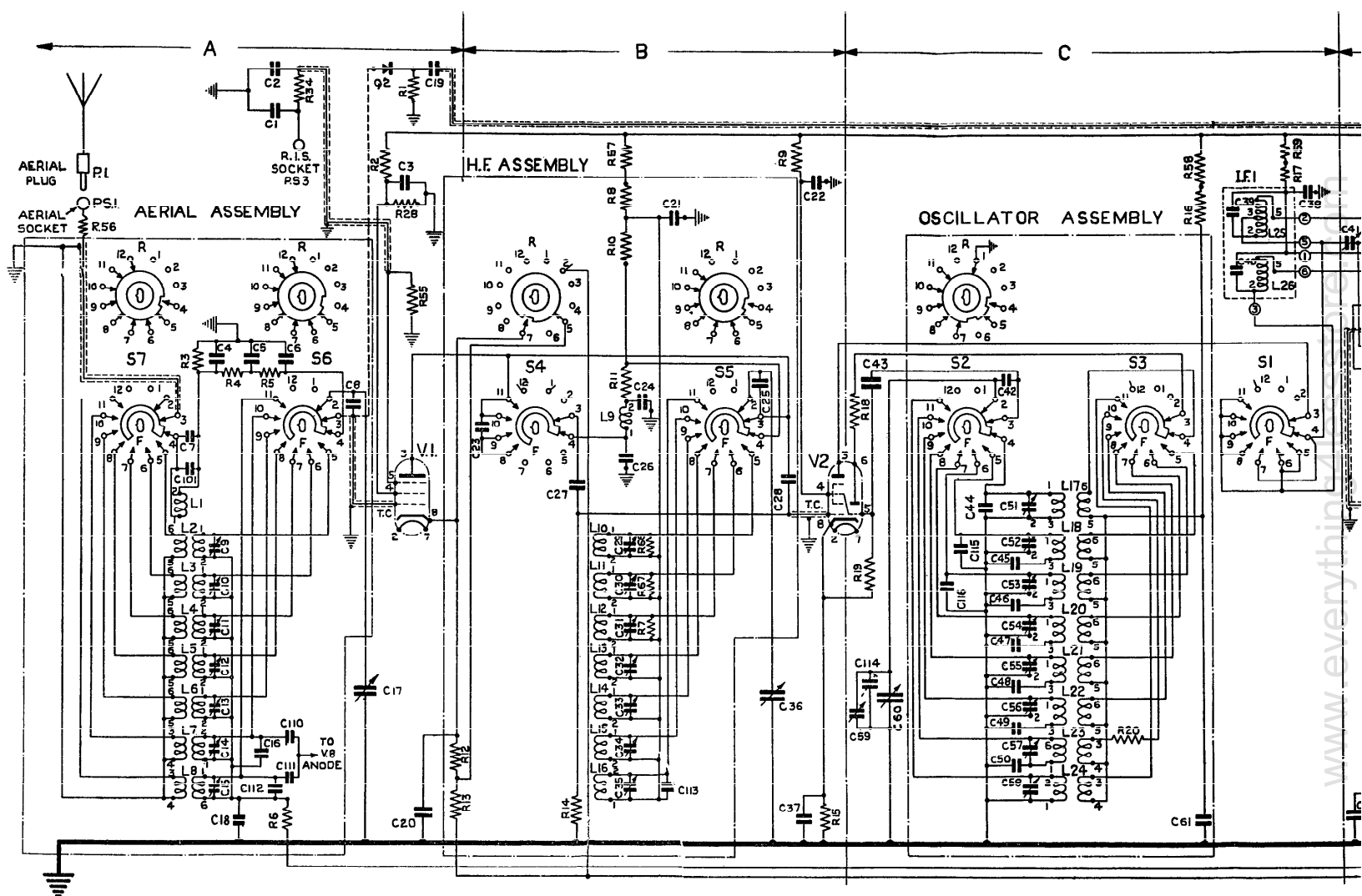
SIMPLIFIED CIRCUIT DIAGRAM OF TYPE CR. 300/1 AND CR. 300/2 RECEIVER.

WZ. 1818. Sh. 1 (Issue 2).

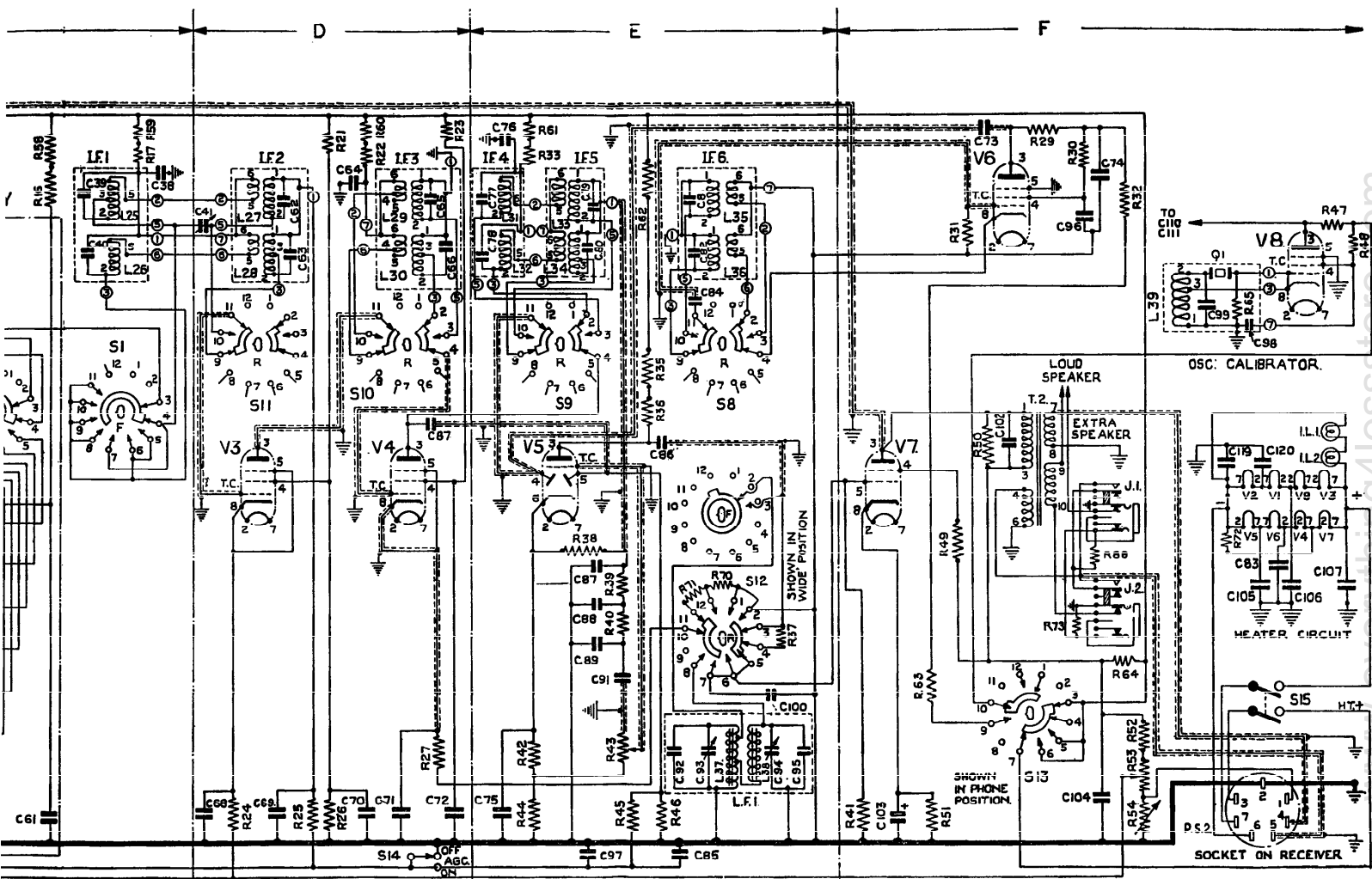


CIRCUIT DIAGRAM OF TYPE CR 3001 AND CR 3002 RECEIVER.

WE/W. 6890, Sb. 1.



CIRCUIT DIAGRAM OF TYPE CR 300/1 AND CR.



TYPE CR 300/1 AND CR. 300/2 RECEIVER.

WE/W. 6890. Sb. 1.

COMPONENT LIST FOR RECEIVER SUPPLY UNIT.

TYPE 889.

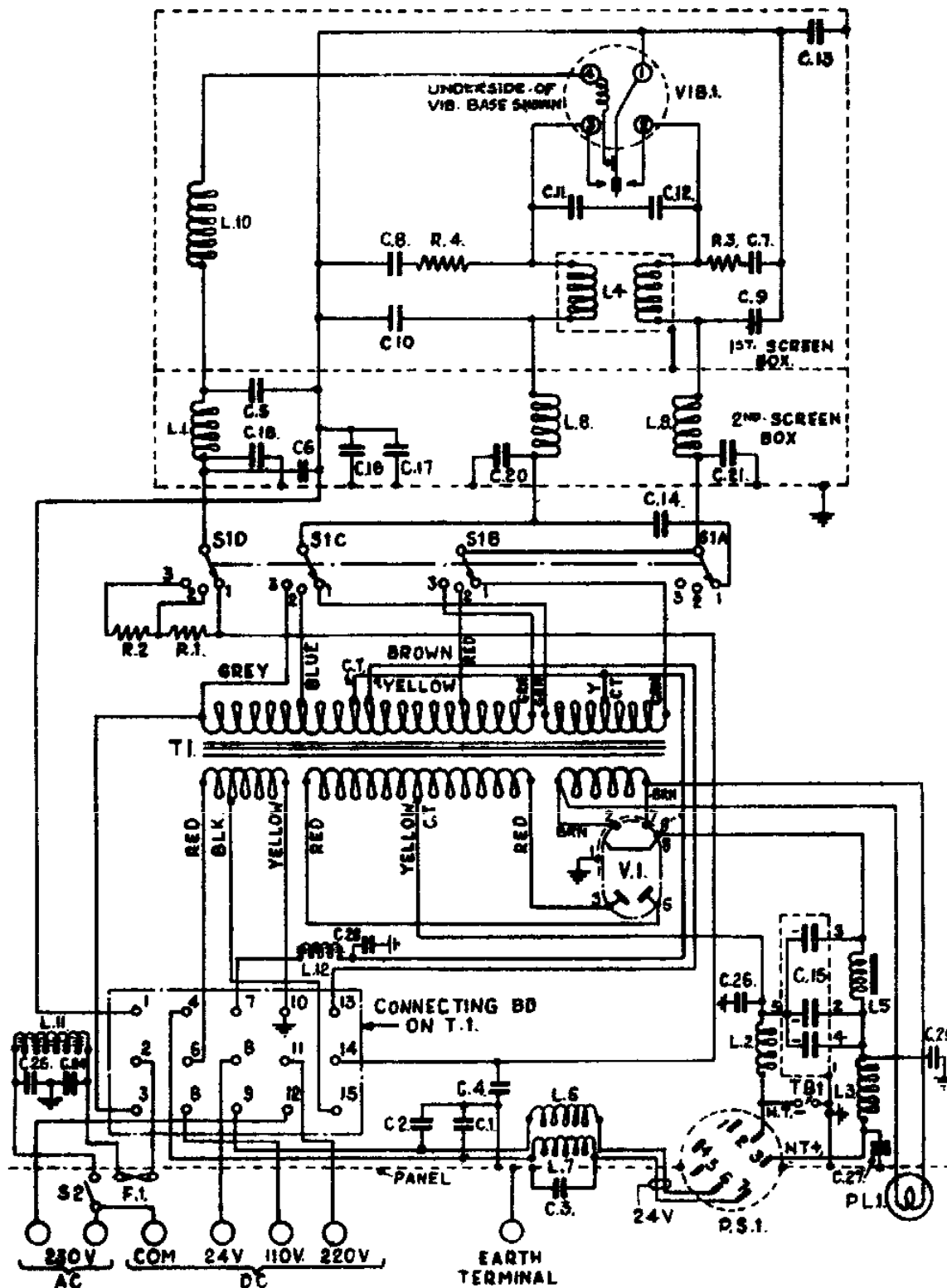
Note. It is essential, when ordering spares for this Unit, to quote the Type reference shown on the Supply Unit (Type 889), Serial No. of Unit, the reference number of the component (e.g., C5), and the drawing number of the component, thus :—

Type 889, MC, C5, WIS. 3368/C, Sh. 1, Ref. 1.

The component part references in column 1 will be found on Drg. WE/W. 7530/C, Sh. 1, page 37.

Ref.	Description.	Nominal Value.	Drawing No.	Adm. Ref.
CONDENSERS.				
C1	Condenser.	2 μ F.	WIS.3367/C Sh. 1, Ref. 1.	M740
C2	Condenser.	As C1.	As C1.	M740
C3	Condenser.	As C1.	As C1.	M740
C4	Condenser.	As C1.	As C1.	M740
C5	Condenser.	0.1 μ F.	WIS.2927 Sh. 1, Ref. 7.	M741
C6	Condenser.	As C5.	As C5.	M741
C7	Condenser.	As C5.	As C5.	M741
C8	Condenser.	As C5.	As C5.	M741
C9	Condenser.	As C5.	As C5.	M741
C10	Condenser.	As C5.	As C5.	M741
C11	Condenser.	0.1 μ F.	WIS.2927 Sh. 1, Ref. 8.	
C12	Condenser.	As C11.	As C11.	
C13	Condenser.	0.5 μ F.	WIS.2927 Sh. 1, Ref. 11.	M742
C14	Condenser.	2 μ F.	As C1.	M740
C15	Condenser, Electrolytic.	8+8+8 μ F.	WIS.2781.	M731
C16	Condenser.	As C13.	As C13.	M742
C17	Condenser.	As C13.	As C13.	M742
C18	Condenser.	0.01 μ F.	WIS.2970 Sh. 1, Ref. 16.	M935
C20	Condenser.	As C18.	As C18.	M935
C21	Condenser.	As C18.	As C18.	M935
C24	Condenser.	As C5.	As C5.	M741
C25	Condenser.	As C5.	As C5.	M741
C26	Condenser.	As C5.	As C5.	M741
C27	Condenser.	As C5.	As C5.	M741
C28	Condenser.	As C5.	As C5.	M741
C29	Condenser.	As C13.	As C13.	M742
FUSEHOLDERS.				
F1	Fuseholder.		WIS.2647 Sh. 1, Ref. 1.	M677
CHOKES.				
L1	Choke.	550 μ H.	WIS.3360/C Sh. 1, Ref. 1.	M736
L2	Choke.	As L1.	As L1.	M736
L3	Choke.	As L1.	As L1.	M736
L4	Choke.	650 μ H.	WIS.3631/C Sh. 1, Ref. 1.	M734
L5	Choke.	7H.	WIS.3362/C Sh. 1, Ref. 1.	M733
L6	Choke.	450 μ H.	WIS.3391/C Sh. 1, Ref. 1.	M933
L7	Choke.	As L6.	As L6.	M933
L8	Choke.	1.75 μ H.	WIS.3402/C Sh. 1, Ref. 1.	
L9	Choke.	As L8.	As L8.	
L10	Choke.	As L8.	As L8.	
L11	Choke.	110 μ H.	WIS.3401/C Sh. 1, Ref. 1.	M934
L12	Choke.	As L11.	As L11.	M934
PL1	Lamp, Pilot.	6 volt 0.3 amps.	WIS.3181/C Sh. 1, Ref. 7.	M510
PS1	Socket, 7 pin.	Yellow.	WSK.836 Sh. 1, Ed. L.	M788

Ref.	Description.	Nominal Value.	Drawing No.	Adm. Ref.
RESISTANCES.				
R1	Resistance.	800 ohms.	WIS.3366/C Sh. 1, Ref. 1.	M743
R2	Resistance.	1,200 ohms.	WIS.3366/C Sh. 1, Ref. 2.	M744
R3	Resistance.	47 ohms.	WIS.2630 Sh. 1, Ref. 7.	M745
R4	Resistance.	47 ohms.	As R3.	M745
SWITCHES.				
S1	Switch, Rotary.	4 pole, 3 way.	WIS.3358/C Sh. 1, Ref. 1.	M737
S2	Switch, On-Off.		WIS.1012.	M738
T1	Transformer.		WIS.3359 Sh. 1, Ref. 1.	M732
TB1	Tag Board.	2 way.	WIS.2792.	
	Terminal Block.	6 way.	WIS.3220/C Sh. 1, Ref. 4.	M739
V1	Valve, Type OZ4.			CV692
VIB1	Vibrator.	24 volt.	WIS.2497 Sh. 1, Ref. 5.	M488



CONNECTIONS TO BE MADE ON CONNECTING BOARD:-

250V. A.C. WORKING. (SWITCH S.1 TO 1)	CONNECT	2 TO 3: 4 TO 5: 9 TO 10: 12 TO 13.
24V. D.C. " (" " " 1)	"	1 TO 2 & 9: 4 TO 7, 8 & 14.
100V. D.C. " (" " " 2)	"	1 TO 2: 4 TO 5: 7 TO 6 & 14: 9 TO 10.
110V. D.C. " (" " " 2)	"	1 TO 2: 4 TO 15: 7 TO 6 & 14: 9 TO 10.
200V. D.C. " (" " " 3)	"	1 TO 2: 4 TO 6: 7 TO 11 & 14: 9 TO 10.
220V. D.C. " (" " " 3)	"	1 TO 2: 4 TO 15: 7 TO 11 & 14: 9 TO 10.

TO EARTH H.T. - OUTPUT, STRAP TERMINALS ON T.B.I.

WE/W. 7350/C. Sh. 1.

CIRCUIT DIAGRAM OF TYPE 889 SUPPLY UNIT FOR TYPE CR. 300/1 & 2 RECEIVER.

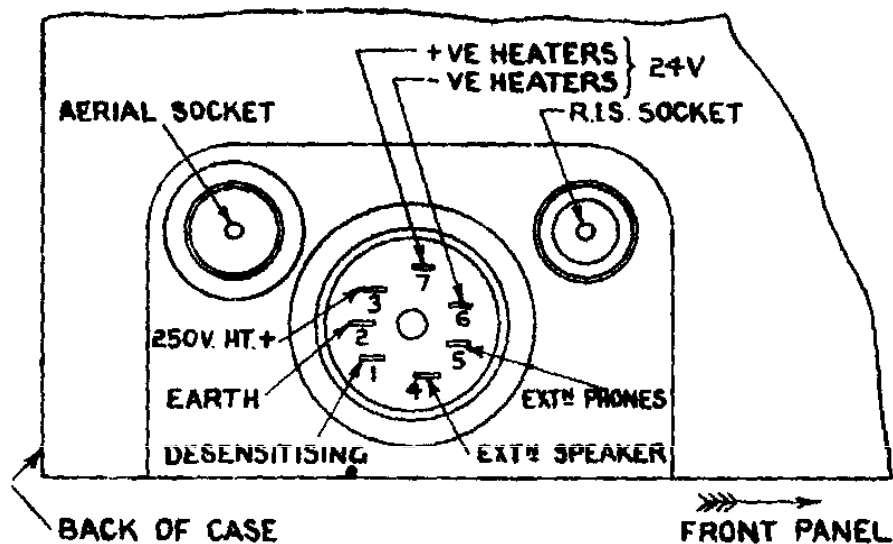


Fig. 5. Power Socket Connections.

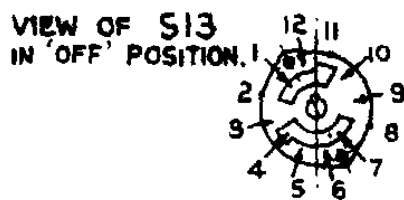
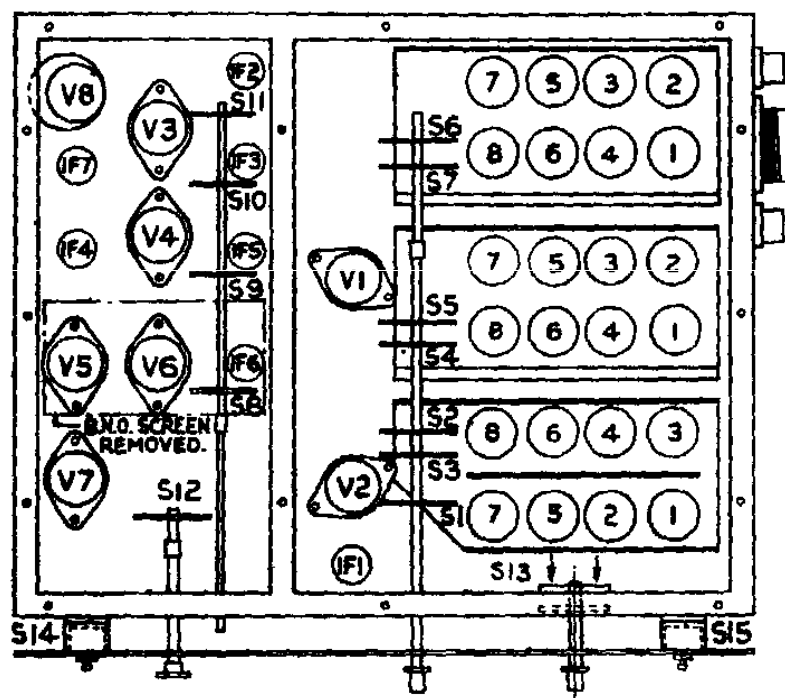


Fig. 7. Position of Switches.

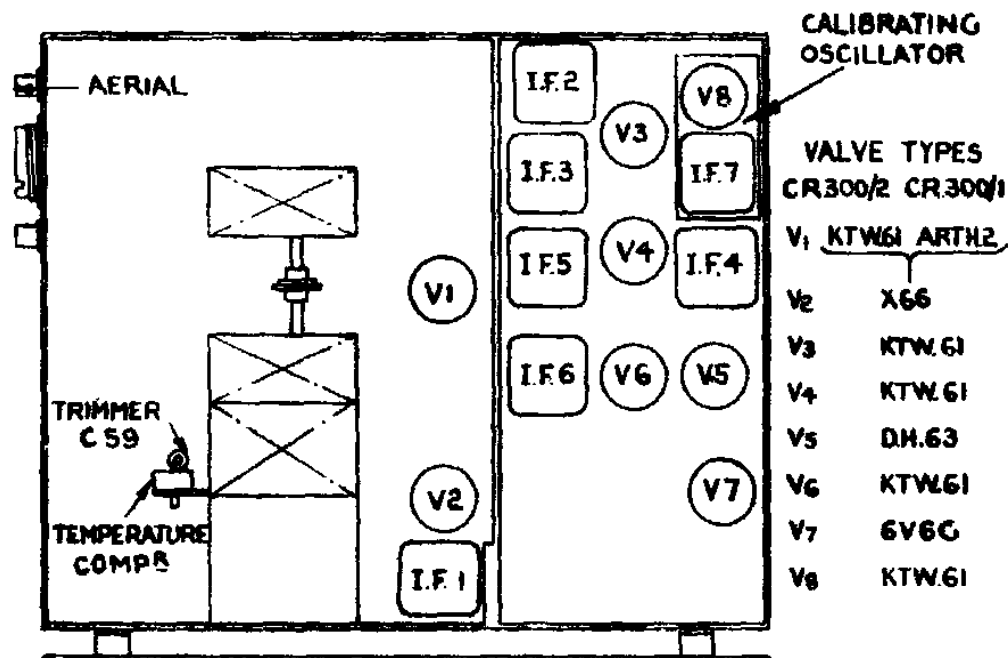
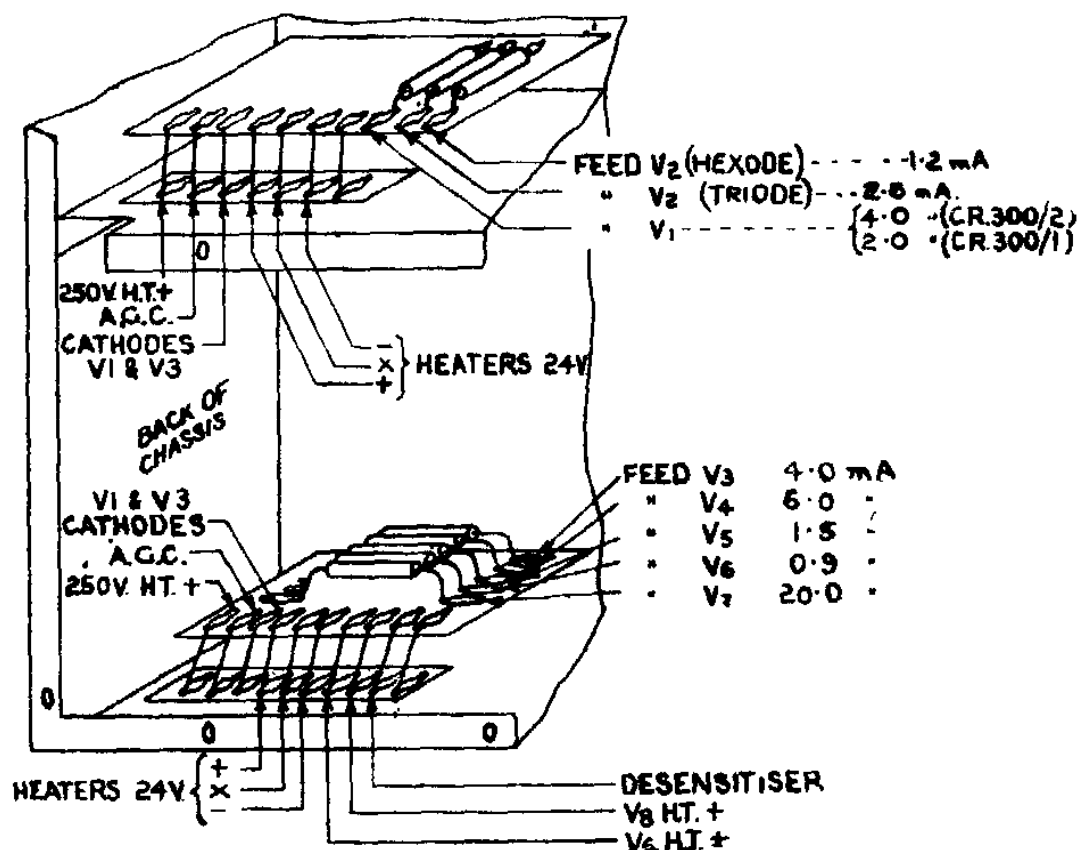


Fig. 6. Position of Valves in Receiver.



NOTE—In the CR.300/2 model the connection between the 3rd pair of tags from the right (V.8 H.T. +) is omitted.

Fig. 8. Checking Valve Feeds.